

## VEGETATION DESCRIPTION FOR TUZIGOOT NATIONAL MONUMENT

NOTE: "\*" Indicates a new formation to the National Vegetation Classification System

### **Populus fremontii — Salix gooddingii Woodland**

COMMON NAME	Fremont's cottonwood—Goodding's willow Woodland
SYNONYM	1224.531 in Reichenbacher, 1983.
TNC SYSTEM	Terrestrial
PHYSIOGNOMIC CLASS	Woodland
PHYSIOGNOMIC SUBCLASS	Deciduous woodland
PHYSIOGNOMIC GROUP	Cold-deciduous woodland
FORMATION	Seasonally/temporarily flooded cold-deciduous woodland
ALLIANCE	<i>Populus fremontii</i> Woodland Alliance

CLASSIFICATION CONFIDENCE LEVEL 2

#### RANGE

This community is found in the Trans-Pecos region of west Texas, in southern New Mexico, and southern Arizona. Specifically it occurs along many streams in central and southern Arizona. It may occur in adjacent California, and Mexico.

#### *Tuzigoot National Monument*

This association forms a ribbon along the southern edge of the main channel of the Verde River.

#### ENVIRONMENTAL DESCRIPTION

This deciduous woodland is best developed along alluvial floodplains of large, low-gradient, perennial streams that flow through wide, unconstrained valleys. The vegetation is dependant on a subsurface water supply and varies considerably with the height of the water table. Major flood events and consequent flood scour, overbank deposition of water and sediments, and stream meandering are important factors that shape this community. Soils are typically stratified sands, loams, and gravels classified as Torrifluvents or Ustifluvents, with Haplustolls on more stable sites. These coarse textured, alluvial sediments have a low water-holding capacity and low nutrient availability. In well developed floodplains, streambanks support stands representative of this association. Alluvial soils composed of sand and gravel typify these sites. Flooding is essential for the regeneration and maintenance of these communities in a river system.

#### *Tuzigoot National Monument*

This association is located on seasonally to intermittently flooded, fine sandy soils scattered with driftwood and litter carried by high water.

USFWS WETLAND SYSTEM Palustrine

## USGS-NPS Vegetation Mapping Program

### Tuzigoot National Monument

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#### MOST ABUNDANT SPECIES

##### Globally

##### Strata

Tree canopy

Shrub

Herbaceous

##### Species

*Populus fremontii*, *Salix gooddingii*, *Platanus wrightii*, *Fraxinus pennsylvanica*, *Juglans major*, *Morus microphylla*, *Salix bonplandiana*, *Ziziphus obtusifolia*, *Hyemnoclea mongyra*, *Lycium* spp., *Baccharis salicifolia*, *Baccharis sarothroides*, *Brickellia* spp.

##### Tuzigoot National Monument

##### Strata

Tree canopy

Shrub

Herbaceous

##### Species

*Populus fremontii*, *Salix gooddingii*, *Tamarix chinensis*, *Prosopis velutina*, *Brickellia* spp., *Euphorbia* spp., *Cynodon dactylon*, *Sporobolus cryptandrus*

#### DIAGNOSTIC SPECIES

##### Globally

*Populus fremontii*, *Salix gooddingii*

##### Tuzigoot National Monument

*Populus fremontii*, *Salix gooddingii*

#### VEGETATION DESCRIPTION

##### Globally

This community occurs as small isolated stands or as linear bands that parallel the stream channel. It typically towers above the surrounding vegetation. This broadleaf woodland, dominated by *Populus fremontii* trees 30 meters tall, typically appears over a more visually prominent lower tree layer of *Salix gooddingii* and other shorter trees. The understory is generally a thicket of shrubs, although their density varies with developmental stage of the community and disturbance regime. The understory of most examples has been considerably altered by grazing and other factors; thus, the composition and cover of the native understory is difficult to ascertain. The understory can be dense to open and frequently consists of shrubs and small trees 1m — 5m tall. The woody exotics *Elaeagnus angustifolia* and various species of *Tamarix* now dominate the understory of most examples. The herbaceous stratum varies in composition and coverage but is characterized by mixed annuals and short-lived perennials. Most examples now have a herbaceous flora dominated by exotic species, in particular *Cynodon dactylon*.

##### Tuzigoot National Monument

The *Populus fremontii*—*Salix gooddingii* association is bordered on the north by the Verde River. An unknown mint was prominent on the infrared aerial photographs along the water margin. *Platanus racemosa* and *Fraxinus velutina* saplings were observed in the stand sampled. The understory of the *Populus fremontii*—*Salix gooddingii* association is clear of herbaceous species, probably due to scouring of the bank by the river.

#### OTHER NOTEWORTHY SPECIES

Exotic plant species found in this community include *Tamarix chinensis*, *Elaeagnus angustifolia*, *Cynodon dactylon*, *Bromus rubens*, *Hordeum murinum* ssp. *leporinum*, *Pennisetum setaceum*, *Schismus* spp., *Sisymbrium irio*, and *Erodium* spp.

#### CONSERVATION RANK G2

#### RANK JUSTIFICATION

This woodland once occupied the floodplains and riverbanks of most perennial waterways within its range, but has mostly been replaced by disturbance types dominated by exotic species. Major impacts to this community are the overuse by domestic livestock and reservoir and irrigation projects. Dams and water diversions on perennial streams have severely reduced stream flow and altered the natural flooding processes of these riparian communities.

#### COMMENTS

To the south, east and west on the Monument, the *Populus fremontii*—*Salix gooddingii* association is bordered by the *Chilopsis linearis* association. Irrigation ditches lined by a luxuriant stand of *Prosopis velutina*, *Celtis reticulata*, *Fraxinus velutina*, *Datura meteloides*, *Cucurbita digita*, and *Vitis Arizonica* border this community.

#### REFERENCES

- Campbell, C.J. and W.A. Dick-Peddie. 1964. Comparison of Phreatophyte Communities on the Rio Grande in New Mexico. *Ecology* 45:492-502.
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- Stromberg, J.C. 1993. Fremont cottonwood—Goodding willow Riparian Forests: a Review of their Ecology, Threats, and Recovery Potential. *Journal of the Arizona-Nevada Academy of Science* 27(1):97-110.
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